

Date: Thu, 30 Jun 94 04:30:12 PDT  
From: Ham-Policy Mailing List and Newsgroup <ham-policy@ucsd.edu>  
Errors-To: Ham-Policy-Errors@UCSD.Edu  
Reply-To: Ham-Policy@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Policy Digest V94 #289  
To: Ham-Policy

Ham-Policy Digest                    Thu, 30 Jun 94                    Volume 94 : Issue 289

Today's Topics:

900Mhz Part 15 (2 msgs)  
CW ... My view.

Send Replies or notes for publication to: <Ham-Policy@UCSD.Edu>  
Send subscription requests to: <Ham-Policy-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Policy Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-policy".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Tue, 28 Jun 1994 18:32:14 -0500  
From: ihnp4.ucsd.edu!news.acns.nwu.edu!ftpbox!mothost!lmpsbb!NewsWatcher!  
user@network.ucsd.edu  
Subject: 900Mhz Part 15  
To: ham-policy@ucsd.edu

In article <2uovl9\$df1@news.ysu.edu>, ae674@yfn.ysu.edu (Reid Savage)  
wrote:

>  
> I'm interested in using the 902-928 Mhz band. Specifically, using it part 15.  
> I understand that as a ham I can transmit high power levels but I'm more  
> intrigued in not having the restrictions that go with the amateur service.  
> I think it's pretty cool that I could communicate either 1 way or 2 way with  
> anyone. What are the rules concerning building your own part 15 equipment??

Apparently you don't understand the situation very well. Only hams get the  
higher power, and ALL users are on a secondary, non-interfering basis. Part  
15 devices MUST be submitted to the FCC for approval, unlike amateur  
equipment which is NOT subject to type acceptance in the VHF frequency  
ranges. Amateurs can ONLY communicate with other amateur stations, not

with any other occupants of the shared frequency band.

>

> If anyone has any experience with this band I would appreciate hearing from  
> you. The 1 watt ERP limit, for many applications is all the power you would  
> need. A 1/2 watt transmiter right into jpole antenna on top of a tall build-  
> ing would give great coverage. It might not penetrate to the depths of the  
> concrete canyons. But it would be fine for any line of sight work with  
> reasonable receive antennas. Now if there were just some 1/2 watt 900Mhz HTs  
> for sale. Imagine a part 15 900Mhz repeater!! - you wouldn't even need an

There ARE 900 MHz HTs for sale, you just haven't been reading the right magazine ads! Regarding the ID, remember that ALL amateur stations are required to ID except when running the exotic spread spectrum modes. Only a few of them are legal for amateur radio use, as compared to the commercial Part 15 units.

> IDer. There are so many possibilities. Over a year ago a company that  
> makes spread spectrum radios advertised one of their radios in a ham magazine.  
> The spread spectrum radio was a part 15 unit operating in the 902-928Mhz range  
> at 128kbps. They claimed 1 watt of RF power and in the picture was a radio  
> with a little duck antenna. If you used a halfwave antenna that would put you  
> over 1 watt ERP. Are there some forms of spread spectrum that are allowed  
> slightly higher output powers because of their wide band nature? I know that

No, in fact spread spectrum is power limited BECAUSE it needs more bandwidth. You are definitely limited to 1W ERP to minimize the interference problems for which you (as one of many secondary users) are totally responsible. And as for the commercial SS systems, they rely on having multiple routes to get a message from node A to node B, so antennas with directional gain are not useable.

> the wavelan cards put out a 1/4 watt of RF. It's very easy to exceed 1 watt  
> ERP with any directional antenna. Many of the things I'm interested in doing  
> would operate right on edge of legality. Would the FCC require field strength

If you want to do things that are on or beyond the edge of legality under the amateur rules, you would be much safer buying the commercially built, already type-accepted units and not risking your amateur license privileges. The hook is that you must buy the commercial units to be considered NOT an amateur station; if you build your own boxes you're stuck with the amateur rules and potential loss of your amateur license whenever you violate the Part 97 restrictions.

> measurements in order to take into account things like the tower acting like a  
> reflector? From what I gather the 1 watt ERP limit may not be strictly  
> enforced but you don't want to be the one who is made the example of,  
> especially if its not ham compatible.

In your location (Madison, WI) you may find that the power company and cordless phones already occupy a significant portion of the time-bandwidth product. Just remember that you aren't allowed to cause interference to any other user, all present band occupants are secondary, and four new primary licenses have already been granted for high power nationwide vehicle location and tracking systems in the band.

>  
> Reid Savage N9SYW  
> Internet ae674@yfn.yzu.edu  
> --  
> Reid Savage N9syw  
> 4015 Hiawatha Dr.  
> Madison, WI 53711  
> (608)-238-9870

Good luck, but be careful not to jeopardize your amateur license

--  
Karl Beckman, P.E. <The difference between stupidity and genius is that genius has its limits.>  
Motorola Comm - Fixed Data

Amateur radio WA8NVW @ K8MR.NEOH.USA.NA NavyMARS VBH @ NOGBN.NOASI  
The statements and opinions expressed here are not those of Motorola Inc.

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Date: Wed, 29 Jun 1994 12:32:18 GMT  
From: netcomsv!netcom.com!netnews@decwrl.dec.com  
Subject: 900Mhz Part 15  
To: ham-policy@ucsd.edu

There are plenty of companies making 900 MHz Part 15 devices - both wireless LANs and cordless phones. Companies are also developing wireless WANs in this band for alternative Internet connections. Most of the investment for next-generation products is in the 2.4 GHz band.

The 1 W power levels are permitted ONLY to spread-spectrum devices. Devices that do not use spread-spectrum must use lower power. Not all spread-spectrum products use the full 1 W, though. Repeaters are permitted in Part 15 now.

The products must be certified by the FCC. There are special rules for building your own devices that will not be marketed. All of this is in FCC Part 15 rules at your library. Ask for 47 CFR 15, especially 15.247 and 15.249.

There are heated controversies going on about both of these bands. In the 902-928 band the threat of Location and Monitoring Service (LMS) devices is of concern to amateur and non-amateur operations. In the 2.4 GHz band the government proposes to introduce new, unspecified commercial operations that also worry hams and Part 15 manufacturers.

Bennett Kobb  
KC5CW WashDC

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Date: Wed, 29 Jun 1994 15:37:00 EST  
From: ihnp4.ucsd.edu!swrindle!gatech!usenet.ins.cwru.edu!wariat.org!amcomp!  
dan@network.ucsd.edu  
Subject: CW ... My view.  
To: ham-policy@ucsd.edu

rheiss@harp.aix.calpoly.edu (Robert Everitt Heiss) writes:

>One more view ...  
>  
>Once you know CW, there is a lower hurdle from being an appliance  
>operator to building or even designing a homebrew rig. CW technology  
>is more accessible than SSB and the minimum cost is much lower, too.

This is not totally accurate. Simple SSB transceivers can be made at similar costs to morse ones. As previously posted here on .policy.

>My 35 Watt CW rig with a dipole reached out about as far as a 100 Watt  
>SSB appliance with a beam, and since most hams "speak" CW, I could  
>have fun "talking" with the simple little thing.

No arguement, enjoy your favorite aspect of amateur radio to your hearts content. No one is suggesting differently. And I will be the first one to take exception with anyone who does!

>Most importantly, I learned electronics while tinkering with the rig.  
>I feel that spreading knowledge of RF technology is one of the main  
>justifications for amateur radio. Code is a stepping stone towards  
>education.

Code CAN BE a stepping stone, I will not argue (I could but won't). But code is not the ONLY stepping stone, nor is it a particularly relevent one to the rest of the RF uses in the country.

>The 13 WPM code test is not too much to ask. Typical CW chats are 15  
>WPM or more even in the novice bands. An operator who can just barely

>copy dots and dashes at 5 WPM does not yet appreciate the possibilities  
>of code.

IF your desire is to communicate with manual morse I would agree, however  
if that is not your desire it is hazing to require it.

> If all you could do was crawl, walking would seem impossibly  
>hard, but it's actually easier.

And if walking was not your goal? If you could fly around like superman  
why learn to crawl or walk at all?

Dan

--  
"Is life so dear, or peace so sweet, as to be purchased at the price  
of chains and slavery? Forbid it, Almighty God! I know not what  
course others may take, but as for me, GIVE ME LIBERTY, OR GIVE ME  
DEATH!" -Patrick Henry, Virginia House of Burgesses on March 23,1775  
=+=+=> Ted Kennedy's car has killed more people than my gun! - Me

-----  
Date: 29 Jun 1994 22:03:43 GMT  
From: koriel!newsworthy.West.Sun.COM!abyss.West.Sun.COM!bigboy!myers@ames.arpa  
To: ham-policy@ucsd.edu

References <Cs2BC5.FMM@eecs.nwu.edu>, <BM+yxAL.edellers@delphi.com>,  
<2uqe71\$djt@ccnet.ccnet.com>  
Subject : Re: Existing regulations limit our advancement.

In article <2uqe71\$djt@ccnet.ccnet.com> rwilkins@ccnet.com (Bob Wilkins n6fri)  
writes:

>Ed Ellers (edellers@delphi.com) wrote:

>: H. Peter Anvin <hpa@solo.eecs.nwu.edu> writes:

>:

>: > "Reverse autopatch for N9ITP this is WB9AET repeater"

>:

>: Sounds like a classic example of a transmission by one amateur station intended  
>: to be received by one other specific station. The only difference is that the  
>: transmission is sent automatically rather than by a (human) control operator.

>:

>: -- Ed Ellers, KD4AWQ

>

>Show me the gray area of the law that allows a third party to  
>automatically control an amateur repeater station.

Of course, the third-party operator is remotely controlling the  
repeater, not automatically controlling it. However, Bob is right...

--  
\* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are  
\*  
\* (310) 348-6043 | mine and do not necessarily \*  
\* Dana.Myers@West.Sun.Com | reflect those of my employer  
\*  
\* This Extra supports the abolition of the 13 and 20 WPM tests \*

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Date: Wed, 29 Jun 1994 13:58:15 GMT  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!gatech!nntp.msstate.edu!emory!  
rsiatl!ke4zv!gary@network.ucsd.edu  
To: ham-policy@ucsd.edu

References <1994Jun27.044125.121874@zeus.aix.calpoly.edu>,  
<1994Jun27.162718.24985@ke4zv.atl.ga.us>, <wyn.29.2E102B16@ornl.gov>  
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)  
Subject : Re: Field Day (was Re: CW ... My view.)

In article <wyn.29.2E102B16@ornl.gov> wyn@ornl.gov (C. C. (Clay) Wynn N4AOX)  
writes:  
>  
>Wow, no wonder I didn't catch you on field day! What was the code speed  
>you were copying? If you don't recommend MCW for BCD or ASCII, what mod.  
>technique will you use? :-)

The telemetry was at 20 WPM. That's above my normal copy speed for  
random text, but since the telemetry was formatted rigidly, it wasn't  
much of a strain to copy the 3 digit number groups, at least not at  
first. After an hour and 56 minutes of it though, it became very tedious.  
We'll use 1200 baud AFSK next time (single chip modems).

Gary

--  
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary  
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary  
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary  
Lawrenceville, GA 30244 | |

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Date: Wed, 29 Jun 1994 17:02:00 EST  
From: ihnp4.ucsd.edu!swrinde!gatech!usenet.ins.cwru.edu!wariat.org!amcomp!  
dan@network.ucsd.edu  
To: ham-policy@ucsd.edu

References <Cs2BC5.FMM@eecs.nwu.edu>, <BM+yxAL.edellers@delphi.com>, <2uqe71\$djt@ccnet.ccnet.com>  
Subject : Re: Existing regulations limit our advancement.

rwilkins@ccnet.com (Bob Wilkins n6fri) writes:

>Ed Ellers (edellers@delphi.com) wrote:  
> H. Peter Anvin <hpa@solo.eecs.nwu.edu> writes:  
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> transmission is sent automatically rather than by a (human) control operator.  
>  
> -- Ed Ellers, KD4AWQ  
>  
>Show me the gray area of the law that allows a third party to  
>automatically control an amateur repeater station.

The thrid party is not in control of anything, the automatic control operator is in control. All the automatic control operater is doing is advising a control operator of and external sensed input, same as a clock or a temperature.

Dan

--  
"Is life so dear, or peace so sweet, as to be purchased at the price  
of chains and slavery? Forbid it, Almighty God! I know not what  
course others may take, but as for me, GIVE ME LIBERTY, OR GIVE ME  
DEATH!" -Patrick Henry, Virginia House of Burgesses on March 23,1775  
=+=+=> Ted Kennedy's car has killed more people than my gun! - Me

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Date: Wed, 29 Jun 1994 15:22:00 EST  
From: ihnp4.ucsd.edu!swrinde!gatech!usenet.ins.cwru.edu!wariat.org!amcomp!  
dan@network.ucsd.edu  
To: ham-policy@ucsd.edu

References <CrwFLG.LJt@world.std.com>, <062494104326Rnf0.78@amcomp.com>, <Cry9xo.JJ6@world.std.com>  
Subject : Re: CW - THE ONLY MODE!

drt@world.std.com (David R Tucker) writes:

>Dan Pickersgill (dan@amcomp.com) wrote:  
> drt@world.std.com (David R Tucker) writes:

>  
>: >Dan Pickersgill (dan@amcomp.com) wrote:  
>: >: tim.marek@megasystem.com (Tim Marek) writes:  
>:  
>: >Sorry Gary.. CW IS a second language! Once you develope the ability to  
>: >copy 30 -50 WPM in your head you will know this to be true.  
>:  
>: >Then ASCII is a language? No. It is not. Your wetware modem decodes the  
>: > morse encoded ENGLISH, that is all.  
>:  
>: >So which is it - is English (or French, or Spanish) not a language,  
>: >or is something besides my wetware modem decoding it? Gotta be  
>: >one or the other, right? I have no innate knowledge of it.  
>  
>: Then ASCII is a language. As is EBCDIC. And PGP must be a language  
>: too then correct?  
>  
>No. You didn't answer the question. You said that morse was not a  
>language and that your wetware modem merely decoded it. Seems to me  
>that one of the things that distinguishes languages from ASCII and  
>such is precisely that your wetware modem understands it. (Don't say  
>you \*understand\* ASCII unless you can read words written in it with  
>some fluency, the way people understand words, not just letters, in  
>morse. That's only the "5 wpm" level).

ASCII no, EBCDIC yes. And I am sorry for not answering the question. Yes,  
english is a language. It stands alone as a language. Morse, ASCII,  
EBCDIC, et. al. encode the roman alphabet. Morse used to communicate the  
characters that make up english (or any other language that is used).

> Anyway, if you're right about  
>wetware modems, English cannot be a language, can it? After all, a  
>wetware modem is necessary to decode it. My point is that that alone  
>isn't much of a point against something. And if you say "machines do  
>telegraphy better," well, they're working on the day that's true of  
>telephony, too. "Wetware modem" as a term generates much more heat  
>than light.

It is descriptive of the activity. And I did not coin the phrase, I just  
used it.

>(Is morse a language? Depends entirely upon your semantics. Under  
>Webster's 3d definition 2b, it pretty clearly is. Under some others,  
>it isn't. No one should care too much, because even conceding that  
>morse is a language, it doesn't follow that knowledge of it should be  
>required for a license. No others but limited Exam English are. It  
>works in reverse, too - even if ASCII isn't a language, that alone  
>doesn't mean knowledge of it shouldn't be required. The language

>question is irrelevant to radio. So, who cares?)

Well, we agree to the extent that the question should be the relevance of the testing. However, I did not bring up the language issue. The pro-code side chooses to use that as a reason for keeping the code testing. I was attempting to refute the argument.

Dan

--

"Is life so dear, or peace so sweet, as to be purchased at the price of chains and slavery? Forbid it, Almighty God! I know not what course others may take, but as for me, GIVE ME LIBERTY, OR GIVE ME DEATH!" -Patrick Henry, Virginia House of Burgesses on March 23, 1775  
=+=+=> Ted Kennedy's car has killed more people than my gun! - Me

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Date: Wed, 29 Jun 1994 16:25:57 GMT  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!europa.eng.gtefsd.com!  
sundog.tiac.net!usenet.elf.com!rpi!psinntp!arrl.org!zlau@network.ucsd.edu  
To: ham-policy@ucsd.edu

References <1994Jun21.192916.6620@auc.trw.com>,  
<1994Jun27.044125.121874@zeus.aix.calpoly.edu>,  
<1994Jun27.162718.24985@ke4zv.atl.ga.us>  
Subject : Re: CW ... My view.

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

: Most of the complexity of either SSB or CW is in the receiver, not the  
: transmitter. And a receiver for one mode also typically works for the  
: other. In the realm of transmitters, FM transmitters are about as  
: simple as CW transmitters, and much cheaper to operate since no manhours  
: are wasted programming wetware modems. FM receivers are simpler than  
: most competent CW receivers too, today a single chip in many cases.

Is there a simple FM or SSB transceiver you would recommend for people to build these days, or is this something that could be done but nobody has documented yet?

An example of a competent CW transceiver is the QRP Three bander, page 30-19 of the 1994 ARRL Handbook. Even though it has full break-in, a sidetone, and a receiver that sounds decent, it is an example of a single board transceiver without jumper wires. I've built a few SSB transceivers, but none really come close in terms of design elegance.

--

Zack Lau KH6CP/1

2 way QRP WAS

8 States on 10 GHz  
Internet: zlau@arrl.org 10 grids on 2304 MHz

---

Date: Thu, 30 Jun 1994 06:40:23 GMT  
From: news.Hawaii.Edu!kahuna!jeffrey@ames.arpa  
To: ham-policy@ucsd.edu

References <1994Jun21.192916.6620@auc.trw.com>, <1994Jun27.044125.121874@zeus.aix.calpoly.edu>, <062994153707Rnf0.78@amcomp.com>  
Subject : Re: CW ... My view.

In article <062994153707Rnf0.78@amcomp.com> dan@amcomp.com (Dan Pickersgill) writes:

>rheiss@harp.aix.calpoly.edu (Robert Everitt Heiss) writes:

>

>>One more view ...

>>

>>Once you know CW, there is a lower hurdle from being an appliance  
>>operator to building or even designing a homebrew rig. CW technology  
>>is more accessible than SSB and the minimum cost is much lower, too.

>

>This is not totally accurate. Simple SSB transceivers can be made at  
>similar costs to morse ones. As previously posted here on .policy.

That was a particular person's opinion rather than fact (he does that quite often!)

Just looking transmitters, CW requires far fewer parts. My latest xmtr, a 30M pup, only took 30 components. I scrounged all the parts except for a \$1.50 trimmer capacitor from RS.

Oops, it's actually 31 components including the key which was make from a hacksaw blade.

Ah, the simplicity!

Jeff NH6IL

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End of Ham-Policy Digest V94 #289  
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